

### **REMARKS/ARGUMENTS**

Reconsideration and allowance of the instant application are respectfully requested.

Claims 30-33, 36 and 39-49 remain in this application. Claims 34, 35, 37 and 38 have been canceled without prejudice or disclaimer.

The claimed invention, as defined by claims 30-33, 36 and 39-45 is directed to a protective coating applied to a substantially transparent surface. The protective coating comprises a pigment and a binder, the binder comprising a vinyl polymer based on one or more monomers selected from the group consisting of methyl metacrylate, butyl acrylate, 2-ethylhexyl acrylate, ethyl acrylate, styrene, methacrylic acid, and acrylic acid having a weight-average molecular weight of 10,000 – 100,000 and an acid value of 40 – 250. The binder has a polydispersity of 2-6 and a glass transition temperature of 10 to 60 °C. The coating is on a substantially transparent surface and the coating is removable with a removing agent comprising a base, preferably a strong base, and a complex former. The invention is further directed to a method of making the protective coating as recited in claims 46-49.

Claims 30-41, 44, and 46-48 stand rejected as anticipated by EP 0578,498. For a reference to anticipate a claim, that reference must teach each and every element of that claim. EP '498 discloses, in general terms, an acrylic polymer, which can be used for various applications. There is no guidance to select the vinyl polymer having the properties of the instant claims nor is there any guidance to use the binder of the instant claims on a transparent substrate as a protective coating.

In the Advisory Action it is stated that the most important citation of EP '498 is provided on page 43, lines 25-27 "The polymerized product ... can be used for a temporarily protecting film and so forth by taking advantage of its alkali-solubility." However, this example discloses a weight average molecular weight of 168,000, which is outside the claimed range. In addition, no pigment is added to this product and there is no evidence that it is used as a coating on a transparent surface. Hence, this example cannot anticipate the instant claims. Attention is drawn to page 6, lines 37-42, which describes alkali-soluble films. These films are used for packaging and separating films. Practical examples of the separating film include a temporary protecting film. Nowhere is the film described as a coating applied to a transparent surface.

As one skilled in art readily knows, the characteristics of a polymer can change drastically by modifying, *even slightly*, the types and amounts of monomers and reaction conditions. There is simply no reason that one skilled in the art would have significantly lowered the molecular weight of the final polymer, added a pigment, and expected that a protective coating could be obtained if applied on a transparent surface based on this example.

The Advisory Action states that the instant claims 30-37 do not say a single word about the chemical nature of monomers forming a polymeric binder, but rather elaborate on its properties which are expressly or inherently met by the disclosure of EP '498. Although it is not agreed that the EP '498 expressly or inherently teaches the properties of the instant claims, independent claims 1 and 46 now recite a vinyl polymer based on one or more monomers selected from the group consisting of methyl metacrylate, butyl acrylate, 2-ethylhexyl acrylate, ethyl acrylate, styrene, methacrylic acid, and acrylic acid. Support for this amendment is found in former claim 38. This argument is therefore moot.

Depending on the desired use of a polymer, different properties are desired. For instance, if the polymer is to be used as a pressure-sensitive adhesive it should have the properties set forth on page 5, lines 21-52. Likewise, if the polymer is to be used as an alkali-soluble adhesive, it should be formulated as set forth on page 5, line 53, through page 6, line 16. For these two different applications, the polymers are different from one another.

Page 31, lines 29-34 "discuss the removability of adhesive coating" but this passage is referring to examples conducted on pressure-sensitive *adhesive tape* wherein an acrylic polymer adhesive on a polyester film. The tests were for the ability to remove the tape and whether any of the adhesive remained on the surface. This test for removability of the tape is not concerned with removing a coating from a transparent surface with a removing agent.

That a broad and generic description of the polymer in EP '498 *encompasses* a polymer that is required as a binder in the instant claims provides no teaching to select a polymer for use in a protective coating on a transparent surface that falls within the scope of the instant claims. The instant claimed coating has sufficient adhesive strength to adhere to the transparent substrate and sufficient cohesive strength to remain intact. The coating has strong resistance to various weather influences, such as rain, frost and UV radiation. The coating contains a binder that has

high UV stability, which makes the coating more durable than prior art coatings and contains pigments, which impart to the coating the desired protective action against solar radiation. The coating is also easy to apply to the intended surface and is easily removable. Specifically, the coating can be removed in a manner that is not particularly labor-intensive nor requires chemicals that harm the environment.

EP '498 does not provide any teaching or guidance on how to select a proper binder for a coating for use on a transparent substrate as claimed. It can only be through hindsight application of the instant claims that one skilled in the art would have arrived at the parameters of the instant claims based on EP '498. Withdrawal of the instant rejection is requested.

Claims 30-49 stand rejected as anticipated by, or as obvious over, EP 0478 067. This rejection is in error. EP '067 does not teach or suggest the vinyl polymers of the instant claims having the values of weight average molecular weight and acid value. These properties are not inherently met by the polymer of EP '067.

Examples 1 and 5 of the instant application provide two examples of protective compositions within the scope of the instant claims. In both cases, a polymeric dispersion was used having a solids content of 45% and an acid value of 73. The polymer was formed exclusively from acrylate monomers within the scope of amended claims 30 and 46.

The Declaration by Mr. Bertels, an inventor of both EP '067 and the present application specifically points out that the copolymer referred to in EP '067 is outside the scope of the claims of the present application. This copolymer is the *only* binder disclosed in the example of EP '067 and is a styrene maleic anhydride copolymer that has an acid value of 220, a glass transition temperature of 110 °C, a number average molecular weight of 3600, a weight average molecular weight of 9000, and a polydispersity of 2.5.

The declaration shows that *the only product* specifically identified in EP '067 is outside the scope of the instant claims and has disadvantages. Moreover, Mr. Bertels is one of the inventors of the instant application is one of the inventors of '067 and his sworn statement, "he was not aware that a coating having the specific criteria of the claimed invention would provide

such improved results over the coating disclosed in EP '067," should be accepted absent evidence to the contrary.

As demonstrated in the Declaration, the EP '067 binder has relatively low UV stability, and when exposed to the sun, the cohesive strength deteriorates. These properties of the EP '067 binder make the coating rather brittle, and thus too fragile for use outdoors. In practice, it was found that coatings applied in accordance with EP '067 need to be reapplied two to three times in one season.

In contrast, the binder disclosed in the instant claims is more durable than that of EP '067 and has high UV stability. The binder is prepared from a vinyl polymer as claimed having an acid value of 40 to 250, a glass transition temperature of 10 to 60 °C, and a weight average molecular weight of 10,000 to 100,000, and a polydispersity of 2 to 6. It was found that a coating comprising a binder satisfying all of these criteria meets the requirements for creating a coating that has sufficient adhesive strength to the substrate on which it is applied and sufficient cohesive strength to remain intact. The protective coating of the instant claims is durable throughout the season without need for repair. Yet the coating is easily removable by a base.

EP '067 (page 1, lines 46-48) simply does not provide any disclosure of a polymer meeting the definition of the binder in instant claim 1. It merely makes reference to an organic polymer or copolymer with, possibly neutralized, carboxylic acid residues. There are many examples of polymers that are an organic polymer or copolymer with, possibly neutralized, carboxylic acid residues that do not meet the definition of the binder of instant claim 1.

EP '067 is silent regarding parameters that define the polymers, such as molecular weight. Thus, there is simply no disclosure of any polymer falling under the definition of the binder of current claim 1. Therefore EP'067 does not anticipate the instant claims.

Claims 30-49 stand rejected as obvious over EP 0533 367 in view of EP 0478 067. EP'367 discloses forming a protective coating on products to protect such products in transport and from the elements. The protective coating is used on metallic substrates and is designed to protect against corrosion and the like (see page 4, line 37). EP '367 contains no pigment and there is no motivation to add a pigment to this coating.

EP'367 does not teach or suggest forming a protective coating on a substantially transparent substrate in accordance with the instant claims. There is no reason that one skilled in the art would have used a coating designed to prevent corrosion on a metal surface as a coating on a substantially transparent surface. Moreover, the protection afforded by the protective coating of the instant claims is not to the transparent surface itself but to the objects *covered by* the substantially transparent surface.

The coating described in EP'367 is removable using an alkaline solution. However, it is apparent that the coating of EP'367 is difficult to remove. After application of a 1% solution of monoethanolamine (an alkaline aqueous solution), the coating is removed by washing with water (see page 5, line 16). This implies that mechanical labor is required to remove the coating. This is highly disadvantageous for cleaning large surfaces.

EP'067 does not remedy the defects of EP'367. EP'067 discloses a protective coating and a method of forming such coating against solar radiation for glass plates and outer surfaces of greenhouses. The coating consists of a polymer and one or more inorganic pigments with the coating. One skilled in the art would not have modified the coating for metal substrates based on the coating of EP'067 for transparent surfaces. The coatings are non-analogous. There is no need for a pigment for the disclosed purposes of EP'367 and adding a pigment would clearly be through the hindsight afforded by the claimed invention. Moreover, EP'367 contains organic solvents, which would be highly undesirable in the coatings of EP'067 designed for outdoor use. Organic solvents can damage the environment and the evaporation of the solvents can be considered harmful.

One skilled in the art would not have modified the coating of EP'367 based on the coating of EP'067. Withdrawal of the instant rejection is requested.

**CONCLUSION**

It is believed that no fee is required for this submission. If any fees are required or if an overpayment is made, the Commissioner is authorized to debit or credit our Deposit Account No. 19-0733, accordingly.

All rejections having been addressed, applicant respectfully submits that the instant application is in condition for allowance, and respectfully solicits prompt notification of the same.

Respectfully submitted,

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